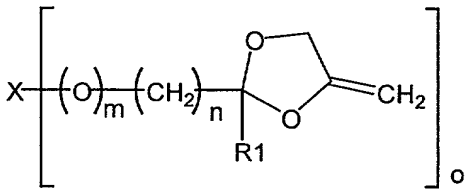
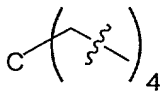
WHAT IS CLAIMED IS:

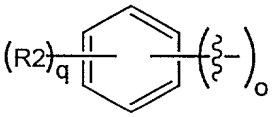
1. A 4-methylene-1,3-dioxolane compound of the general formula (I):

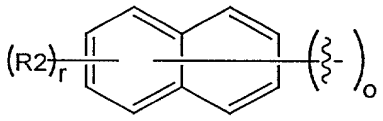


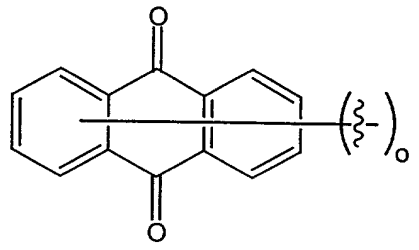
(I)

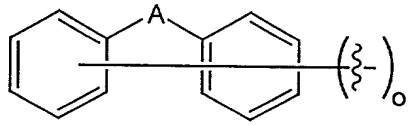
wherein R1 denotes hydrogen, C_5-C_6-cycloalkyl or C_1-C_4-alkyl; m and n, which may be the same or different, denote 0 or 1, wherein $m \leq n$, o denotes 2, 3 or 4 depending on the valency of the group X; and X denotes a C-C single bond, straight-chain or branched C_1-C_{18}-alkylene, C_5-C_6-cycloalkylene, C_8-C_{18}-arylalkylene, $-CH_2(OCH_2CH_2)_pOCH_2-$, $-CH_2(OCH(CH_3)CH_2)_pOCH_2-$, wherein p is an integer from 0 to 100, or a group selected from

(i) 

(ii) 

(iii) 

(iv) 

(v) 

wherein $q \leq (6-o)$, $r \leq (8-o)$, R2 denotes H or a C_1-C_4-alkyl group and A denotes a single bond or denotes $-C(CH_3)_2-$, $-C(CF_3)_2-$, $-CH_2-$, $-SO_2-$ or $-(C=O)-$, and wherein the 2-position of the 1,3-dioxolane ring is not linked directly to an aromatic group.

2. The 4-methylene-1,3-dioxolane compound according to claim 1, selected from the group consisting of:

1,3-Bis-(4-methylene-1,3-dioxolane-2-yl)propane,

1,2-bis-(2-methyl-4-methylene-1,3-dioxolane-2-yl)ethane,

2,2'-bis-[4-methylene oxyphenyl-(4-methylene-1,3-dioxolane-2-yl)]propane,

bis-(4-methylene-1,3-dioxolane-2-yl)methane,

1,5-bis-(4-methylene-1,3-dioxolane-2-yl)pentane,

1,6-bis-(4-methylene-1,3-dioxolane-2-yl)hexane,

bis-(4-methylene-1,3-dioxolane-2-yl)methylether,

1,3-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]propane,

tetrakis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]neopentane,

1,4-bis-(4-methylene-1,3-dioxolane-2-yl)cyclohexane,

1,2-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]ethane,

2,2'-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]ethylether,

1,4-bis-[(4-methylene-1,3-dioxolane-2-yl)ethenyl]-benzene,

1,3-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]benzene,

1,5-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]naphthalene,

2,2-bis-[4-(4-methylene-1,3-dioxolane-2-yl)methylene oxyphenyl]propane,

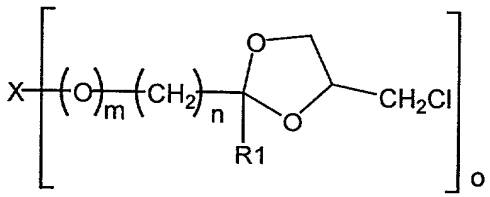
bis-[4-(4-methylene-1,3-dioxolane-2-yl)methylene oxyphenyl]methane,

4,4'-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]biphenyl,

2,6-bis-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]anthraquinone, and

1,3,5-tris-[(4-methylene-1,3-dioxolane-2-yl)methylene oxy]benzene.

3. A 4-chloromethyl-1,3-dioxolane compound of the general formula (II):



(II)

wherein R1, m, n, o and X have the same meanings as those defined for general formula (I) in claim 1, respectively.

4. The 4-chloromethyl-1,3-dioxolane according to claim 3, selected from the group consisting of:

1,3-bis-(4-chloromethyl-1,3-dioxolane-2-yl)propane,

1,2-bis-(2-methyl-4-chloromethyl-1,3-dioxolane-2-yl)ethane,

2,2'-bis-[4-methylene oxyphenyl-(4-chloromethyl-1,3-dioxolane-2-yl)]propane,

bis-(4-chloromethyl-1,3-dioxolane-2-yl)methane,

1,5-bis-(4-chloromethyl-1,3-dioxolane-2-yl)pentane,

1,6-bis-(4-chloromethyl-1,3-dioxolane-2-yl)hexane,

bis-(4-chloromethyl-1,3-dioxolane-2-yl)methylether,

1,3-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]propane,

tetrakis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]neopentane,

1,4-bis-(4-chloromethyl-1,3-dioxolane-2-yl)cyclohexane,

1,2-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]ethane,

2,2'-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]ethylether,

1,4-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)ethenyl]-benzene,

1,3-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]benzene,

1,5-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]naphthalene,

2,2-bis-[4-(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxyphenyl]propane,

bis-[4-(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxyphenyl]methane,

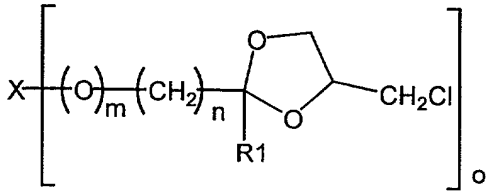
4,4'-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]biphenyl,

2,6-bis-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]anthraquinone, and

1,3,5-tris-[(4-chloromethyl-1,3-dioxolane-2-yl)methylene oxy]benzene.

5. A process for the production of a 4-methylene-1,3-dioxolane compound as recited in claim 1, comprising the steps of:

treating a 4-chloromethyl-1,3-dioxolane compound of the general formula (II):



(II)

wherein R1, m, n, o and X have the same meanings as those defined for general formula (I) in claim 1, respectively, with a base at a temperature from 0°C to 150°C to obtain a reaction product; and

isolating the reaction product in accordance with a *per se* known process.

6. The process according to claim 5, wherein it is implemented at a temperature from 15°C to 60°C.

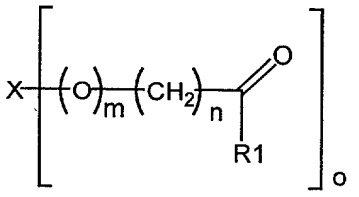
7. The process according to claim 5, wherein the treatment is implemented in the presence of a solvent.

8. The process according to claim 7, wherein the solvent is a good solvent for the base.

9. The process according to one of claims 5 to 8, wherein the base is potassium-*tert.*-butylate.

10. A process for the production of a 4-chloromethyl-1,3-dioxolane compound as recited in claim 3, comprising the steps of:

reacting a compound of the general formula (III):



(III)

wherein R1, m, n, o and X have the same meanings as those defined for general formula (II) in claim 3, respectively, with 3-chloro-1,2-propanediol; and

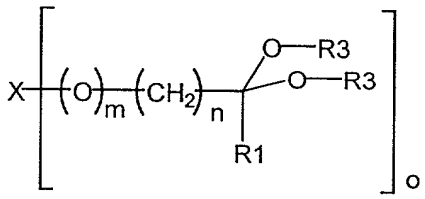
removing the resulting reaction water by distillation.

11. The process according to claim 10, wherein it is carried out in the presence of a catalyst.

12. The process according to claim 10 or 11, wherein an entrainer is used.

13. A process for the production of a 4-chloromethyl-1,3-dioxolanes as recited in claim 3, comprising the steps of:

treating an acetal of the general formula (IV):



(IV)

wherein R1, m, n, o and X have the same meanings as those defined for general formula (II) in claim 3, respectively, and R3 denotes a methyl or ethyl group, with 3-chloro-1,2-propanediol in the presence of an acidic catalyst at a temperature from 25°C to 150°C; and

removing the resulting alcohol by distillation.

14. A composition capable of emission-free, photocationic cross-linking comprising at least one 4-methylene-1,3-dioxolane compound according to claim 1 and at least one photo-initiator.

15. The composition according to claim 14, wherein the photo-initiator comprises a triaryl sulfonium salt or a diaryl iodonium salt.

16. A transparent film obtained from a composition according to claim 14 or 15.